CLAIMS

What is claimed is:

1. A projection screen comprising:

a substrate having at least a first surface;

a reflective layer having a first surface and an opposing second surface, the second surface of the reflective layer being attached to the first surface of the substrate; and

a diffusion layer having a first surface defined by a matte finish and an opposing second surface, the second surface of the diffusion layer being attached to the first surface of the reflective layer.

2. The projection screen of claim 1, wherein the reflective layer comprises a film of aluminum.

3. The projection screen of claim 1, wherein the first surface of the reflective layer has greater reflectivity than the second surface of the reflective layer.

4. The projection screen of claim 1, wherein the second surface of the reflective layer has greater reflectivity than the first surface of the reflective layer.

5. The projection screen of claim 1, wherein the diffusion layer is a resin.

6. The projection screen of claim 6, wherein the resin is one of polyethylene and polypropylene.

7. The projection screen of claim 1, further comprising an optically transparent adhesive that attaches the second surface of the diffusion layer to the first surface of the reflective layer.

8. The projection screen of claim 1, further comprising an adhesive that attaches the first surface of the substrate to the second surface of the reflective layer.

9. The projection screen of claim 1, wherein the diffusion layer has a thickness greater than one one-thousandth of an inch (one mil).

10. The projection screen of claim 9, wherein the thickness of the diffusion layer is in the range of approximately two mils to approximately eight mils.

11. The projection screen of claim 1, wherein the substrate comprises polyvinylchloride and has a thickness in the range of approximately five mils to approximately eight mils.

12. The projection screen of claim 1, wherein the reflective layer has a thickness in the range of approximately one-third of a mil to approximately one mil.

13. The projection screen of claim 1, wherein a combined thickness of the substrate, the reflective layer, and the diffusion layer is in the range of approximately eight mils to twenty mils.

14. The projection screen of claim 1, wherein the substrate is sufficiently flexible to enable the projection screen to be wound around a roller during periods of non-use.

15. The projection screen of claim 1, wherein the second surface of the diffusion layer has a substantially smooth finish.

16. The projection screen of claim 1, wherein a directivity along a vertical axis relative to a normal line passing perpendicularly through a center of the projection screen is the same as a directivity along a horizontal axis relative to said normal line.

17. A projection screen system comprising:

a projection screen that includes:

a substrate having at least a first surface;

a reflective layer having a first surface and an opposing second surface, the second surface of the reflective layer being attached to the first surface of the substrate; and

a diffusion layer having a first surface defined by a matte finish and an opposing second surface, the second surface of the diffusion layer being attached to the first surface of the reflective layer; and

a roller around which the projection screen is wound when the projection screen is not in use.

18. The projection screen system of claim 17, wherein the first surface of the reflective layer has greater reflectivity than the second surface of the reflective layer.

19. The projection screen system of claim 17, wherein a directivity along a vertical axis relative to a normal line passing perpendicularly through a center of the projection screen is the same as a directivity along a horizontal axis relative to said normal line

20. A projection screen comprising:

a flexible substrate having at least a first surface and a thickness of approximately five mils to approximately eight mils;

a metallic layer having a first surface and an opposing second surface and having a thickness in the range of approximately one-third of a mil to approximately one mil;

a first adhesive layer, positioned between the flexible substrate and the metallic layer, that attaches the second surface of the metallic layer to the first surface of the substrate;

a diffusion layer having a first surface defined by a matte finish and an opposing second surface defined by a substantially smooth finish, the diffusion layer further having a thickness in the range of approximately two mils to approximately eight mils; and

a second, optically transparent adhesive layer, positioned between the metallic layer and the diffusion layer, that attaches the second surface of the diffusion layer to the first surface of the metallic layer.